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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/939,804	08/28/2001	Kunihiko Terasa	213313US0X	2864

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EXAMINER

UHLIR, NIKOLAS J

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 07/31/2002

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/939,804

Applicant(s)

TERASE ET AL.

Examiner

Nikolas J. Uhlir

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3,5,8 and 10-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 3,5,8 and 10-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 3, 5, 8, 10-15 and 20-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zdanowski et al. (US3900438) in view of Terasse et al. (US6077341).
4. For the purpose of this examination, the examiner has interpreted the limitation "A floor polishing film comprising a film-formable organic high molecular material provided on the surface of a substrate, which contains scaly particles," present in claim 11, as meaning that the floor polishing film contains scaly particles, not the substrate to which it is applied.
5. Zdanowski et al. teaches a coating composition that produces a glossy bright coating with or without polishing on surfaces of wood, linoleum, metals, asphalt tile, and concrete, especially on floors (column 1, lines 7-11). This coating composition comprises 50-95 parts by weight of a copolymer, 5-50 parts by weight of a wax, 0-30 parts by weight of an alkali soluble resin, a wetting or dispersing agent, and water (column 7, lines 1-10). Any monomer containing an amine group is suitable for use as

the first monomer in the copolymer composition (column 2, lines 14-20). The second monomer in the copolymer is a hardening monomer such as styrene, vinyl chloride, acrylonitrile, or methyl methacrylate (column 4, lines 1-12). The copolymer composition is preferably made by emulsion copolymerization, wherein an anionic or ionic dispersing agent is used to emulsify the monomers (column 4, lines 35-40). The wax used in the coating composition can be natural or synthetic, and should have a melting point of at least 75°C. Suitable waxes include carnauba, mantan, and palm waxes (column 5, lines 6-15). Suitable alkali soluble resins include shellac, manila gum, alkali soluble alkyds (column 6, lines 35-40). The coating composition is adapted to form clear glossy coatings, but may also contain pigments or fillers. These pigments and fillers include, silicates and metal oxides, such as titanium dioxide (column 5, lines 35-47). The amount of filler is between 2-100% by weight based on the weight of the binder resin (column 5, lines 49-55). Zdanowski et al. teaches that a coating of this composition on linoleum, vinyl, and asphalt floor tile surfaces exhibited rapid drying, and excellent gloss and wear resistance (column 8, lines 45-51). Although Zdanowski et al. does not specifically teach that the copolymer composition is an organic high molecular material, the examiner takes the position that this limitation is met. The copolymer composition taught by Zdanowski et al. is a copolymer of an amine monomer with a monomer such as a styrene or vinyl-chloride. Page 9 of the specification states that copolymers of styrene resins and vinyl chloride resins are suitable for use as an organic high molecular compound. Thus, this limitation is met.

6. Zdanowski et al. does not teach a floor polishing composition comprising a film-formable organic high molecular material and scaly particles. Further Zdanowski et al. does not teach a floor polishing composition that contain scaly particles of silica, wherein the particles correspond to layered polysilicic acid. Further, Zdanowski et al. does not teach a floor polishing composition that contains particles of layered scaly silica particles, wherein the silica particles comprise foliar silica secondary particles wherein a plurality of flaky primary particles of scaly silica are overlaid one on another and aligned face to face in parallel. Lastly, Zdanowski et al. does not teach a floor polishing composition containing layered scaly silica particles, wherein the silica particles have the main peaks corresponding to silica-X and/or silica-Y according to x-ray diffraction analysis.

7. Terasse et al. teaches a silica metal oxide composite, wherein metal oxide particulates are supported on the surface of silica agglomerates composed of scaly silica (column 1, lines 6-13). The silica agglomerates form as a result of random stacking of scaly silica primary particles (column 4, lines 6-10). Terasse et al. defines scaly as being in the shape of a thin plate, which may be partially or entirely bent or curled. Terasse et al. teaches that scaly silica particles that agglomerate by stacking are known from academic research as silica-X or Silica-Y (column 4, lines 36-43). Terasse et al. teaches a method for making Silica-X, wherein a silica hydrogel is heated in an autoclave to carry out hydrothermal treatment, resulting in the formation of silica agglomerates in which scaly silica primary particles are randomly stacked (column 7, lines 38-42). In the hydrothermal treatment, an alkali metal salt such as a sodium,

lithium or potassium silicate is permitted to coexist with the silica hydrogel, under basic (pH greater than 7) conditions. This mixture is heated at a temperature between 150-220°C for 5-50 hours (column 7, line 47-column 8, line 40). The silica agglomerates obtained are randomly stacked, and exhibit surface-surface, surface-edge, and edge-edge stacking (column 10, lines 18-28). This process is similar to the process described by the applicant on pages 20-21 of the specification as suitable for producing foliar secondary silica particles that are stacked face to face in parallel. Although Terasse et al. does not specifically teach that the material obtained has the main peaks corresponding to silica-X and/or silica-Y, the examiner take the position that this limitation is inherently met. Terasse et al. teaches that the scaly silica material used is silica-X or silica-Y, thus this limitation is inherently met. The silica-metal oxide taught by Terasse et al. has various applications, and can be incorporated into cosmetics, coating materials, and resins (column 13, lines 39-44). Suitable resins to which the silica-metal oxide composite may be added include urethane resins, vinyl chloride resins, and amino resins (column 14, line 1-3-6). When incorporated into a cosmetic, coating, or resin, the surface of the silica-metal oxide particulate composite may be treated with a coupling agent. When this coupling agent treated silica-metal oxide particulate composite is incorporated into a resin, Terasse et al. teaches that the strength of the resin is improved (column 14, lines 8-18).

8. Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to add the coupling agent treated silica-metal oxide

composite material taught by Terasse et al. to the floor polishing composition as taught by Zdanowski et al.

9. One would have been motivated to make this modification due to the teaching in Terasse et al. that coupling agent treated silica-metal oxide composite particulates increase the strength of resins to which they are added. Further, one would have been motivated to make this modification due to the teaching in Terasse et al. that the composite particulate may be added to resins such as vinyl-chloride and amino resins, and the teaching in Zdanowski et al. that the floor polishing composition comprises a copolymer of an amine group containing monomer and another monomer such as styrene or vinyl chloride.

10. Claims 11-14, and 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zdanowski et al. as modified by Terasse et al., further in view of Hackett et al. (US4363935).

11. Zdanowski et al. as modified by Terasse et al. teaches all of the limitations of claims 11-14 and 16-19, except for those limitations stated below.

12. Zdanowski et al. as modified by Terasse et al., does not teach a floor polishing composition comprising an organic high molecular material and foliar silica particles that are stacked face to face in parallel with one another, wherein a layer comprising an organic high molecular material is provided on the floor polishing composition.

13. Hackett et al. teaches a treatment for polished and unpolished floor surfaces. The treatment comprises spray-buffing a specially formulated compound containing a crosslinking agent onto an in service film (column 1, lines 18-25). Typically, the in

service film is a conventional polished finish such as a polymeric finish or a floor wax. The specially formulated solution contains an ingredient that enables the composition to crosslink with the floor surface through oxygen group bridging. This results in a tough film that is crosslinked with the floor surface. (column 2, lines 10-40). The specially formulated solution consists of an aqueous emulsion of an acrylic, styrene acrylic, vinyl acetate acrylic polymer, a water soluble solvent, a non-ionic surfactant, a volatile amine, a humectant, a crosslinking agent such as methylated melamine or sodium benzoate, ammonia, water, and optionally an anionic or nonionic wax or polyolefin emulsion (column 45-68). Although Hackett et al. does not teach that the resilient layer is an organic high molecular compound, the aqueous polymer emulsion taught by Hackett et al. matches the materials specified by the applicant on page 9 of the specification as suitable organic high molecular compounds. Thus, this limitation is met. Hackett et al. teaches that floor surfaces coated with this composition exhibit improved detergent and water resistance, improved powdering resistance, improved heel mark resistance, and improved overall gloss (column 1, lines 44-50).

14. Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to coat a floor polished with the composition taught by Zdanowski et al. as modified by Terasse et al. with the floor treatment composition taught by Hackett et al.

15. One would have been motivated to make this modification due to the teaching in Hackett et al. that polished floors treated with the floor treatment composition exhibit an



increase in detergent resistance, water resistance, powdering resistance, heel mark resistance, and gloss.

### ***Response to Arguments***

16. Applicant's arguments filed 7/12/02 have been fully considered but they are not persuasive. In the instant case, regarding the rejection of the pending claims, the applicant made the following arguments (summarized):

- Zdanowski discloses no more than what was admitted by the applicants to be already known in the prior art. The examiner recognizes that Zdanowski does not disclose or suggest the use of scaly particles. Terasé is drawn to a composite comprising metal oxide particulates and silica agglomerates having voids formed by random stacking of scaly silica primary particles, and the use of that composite as an ultraviolet ray shielding agent that may be incorporated into cosmetics, coating materials, or resins. Terasé et al.'s composite is not the same as, nor is it suggestive of, the particulate-layered polysilicic acid scaly particles of these claims. Last, Terasé does not disclose a method for treating a floor with this composite, nor does Terasé teach that this composite can be side in a floor polishing composition.

17. These arguments are not persuasive. Regarding the argument that Terasé et al.'s composite is not same as, nor suggestive of, the particulate layered polysilicic acid scaly particles of the claimed invention. The examiner respectfully directs the applicant to the section of this and the prior office action, wherein the examiner states, "Terasé et al. defines scaly as being in the shape of a thin plate, which may be partially or entirely bent or curled. Terasé et al. teaches that scaly silica particles that agglomerate by stacking are known from academic research as silica-X or Silica-Y (column 4, lines 36-43). Terasé et al. teaches a method for making Silica-X, wherein a silica hydrogel is heated in an autoclave to carry out hydrothermal treatment, resulting in the formation of silica agglomerates in which scaly silica primary particles are randomly stacked (column 7, lines 38-42). In the hydrothermal treatment, an alkali metal salt such as a sodium,

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lithium or potassium silicate is permitted to coexist with the silica hydrogel, under basic (pH greater than 7) conditions. This mixture is heated at a temperature between 150-220°C for 5-50 hours (column 7, line 47-column 8, line 40). The silica agglomerates obtained are randomly stacked, and exhibit surface-surface, surface-edge, and edge-edge stacking (column 10, lines 18-28). This process is similar to the process described by the applicant on pages 20-21 of the specification as suitable for producing foliar secondary silica particles that are stacked face to face in parallel." As the particles described by Terasse are formed via a similar method utilizing identical starting materials, and the resultant particles are referred to as "Silica-X, and Silica-Y" by both Terasse and the applicant, the mere allegation that the particulate matter described by Terasse is different than the particulate matter of the claimed invention is not persuasive. Regarding the argument that Zdanowski does not suggest the use of scaly particles. The examiner agrees that Zdanowski does not specifically state that scaly particles are suitable fillers. However, the applicant is directed to the sections of this and the prior office action wherein the examiner states, "The coating composition is adapted to form clear glossy coatings, but may also contain pigments or fillers. These pigments and fillers include, silicates and metal oxides, such as titanium dioxide (column 5, lines 35-47)." The composite material taught by Terasse is a composite of a silicate and a metal oxide, and is taught to increase the strength of resin materials (specifically resins which are similar if not identical to those described in Zdanowski) into which it is incorporated. Thus, there is clear motivation to combine these references. Regarding the argument that Terasse does not teach utilizing the composite in a floor polishing composition, the

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examiner directs the applicant to the section of this and the prior office action which states, "The silica-metal oxide taught by Terasse et al. has various applications, and can be incorporated into cosmetics, coating materials, and resins (column 13, lines 39-44). Suitable resins to which the silica-metal oxide composite may be added include urethane resins, vinyl chloride resins, and amino resins (column 14, line 1-3-6)." Thus, the addition of the composite described by Terasse into the floor polish described by Zdanowski is obvious, as the resin of Zdanowski is identical to the suitable resins taught by Terasse. Regarding the arguments toward a method of applying the floor polish to a floor, Zdanowski clearly teaches that the floor polish can be coated onto linoleum, vinyl, and asphalt floor tiles. This description is sufficient to meet the requirements of the method claims, as no significant method steps are elucidated.

### ***Conclusion***

18. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

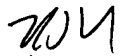
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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nikolas J. Uhlir whose telephone number is 703-305-0179. The examiner can normally be reached on Mon-Fri 7:30 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau can be reached on 703-308-2367. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-0389.



nju  
July 28, 2002



Vivian Chen  
Primary Examiner